

**UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF OHIO  
EASTERN DIVISION**

A. SCHULMAN, INC., )  
)  
Plaintiff and Counter-Defendant, ) Case No. 1:15 CV 1760  
)  
v. ) Judge Patricia A. Gaughan  
)  
POLYONE CORPORATION and )  
POYLONE DESIGNED STRUCTURES )  
ANS SOLUTIONS LLC )  
)  
Defendants and Counter-Plaintiffs. )  
)

## ANSWER, AFFIRMATIVE DEFENSES AND COUNTERCLAIMS

PolyOne Corporation and PolyOne Designed Structures and Solutions LLC, the Defendants and Counter-Plaintiffs (hereinafter collectively referred to as "PolyOne"), by and through their attorneys answering the First Amended Complaint of A. Schulman, Inc. ("ASI"), state as follows:

## ANSWER TO COMPLAINT

## The Parties

1. Plaintiff A. Schulman, Inc. ("ASI"), is a corporation organized and existing under the laws of the state of Delaware, with a place of business at 3637 Ridgewood Road, Fairlawn, Ohio. ASI was founded in 1928 in Akron, Ohio by Alex Schulman. ASI became a public corporation in 1972. Today, ASI is a leading international supplier of high-performance plastic compounds, resins, and services and provides innovative solutions to meet its customers' demanding requirements through proprietary and custom-formulated products.

**ANSWER:** Admitted that Plaintiff ASI is a corporation organized and existing under the laws of the state of Delaware, with a place of business at 3637 Ridgewood Road, Fairlawn, Ohio. PolyOne is without knowledge or information sufficient to form a belief

as to the truth of the remaining allegations of Paragraph 1 of the First Amended Complaint and so denies these allegations.

2. Defendant PolyOne Corporation ("PolyOne") is a corporation organized and existing under the laws of the state of Ohio with a place of business at 33587 Walker Road, Avon Lake, Ohio.

**ANSWER:** Admitted.

3. Defendant PolyOne Designed Structures & Solutions LLC ("DSS") is a corporation organized and existing under the state of Delaware. Based on the DSS website ([www.dss.polyone.com](http://www.dss.polyone.com)), DSS has a place of business at 11650 Lakeside Crossing Court, Maryland Heights, Missouri 63146. PolyOne lists a number of "DSS" facilities on its web page (<http://www.polyone.com/en-us/contact/Pages/LocateUs.aspx> ) under the heading, "PolyOne Global Facilities). It appears from PolyOne's website, and from correspondence sent from in-house counsel for PolyOne concerning the dispute that is the subject matter of this Amended Complaint, that PolyOne controls DSS. On information and belief, DSS is a wholly-owned subsidiary of PolyOne.

**ANSWER:** Denied that PolyOne Designed Structures & Solutions LLC ("DSS") is a corporation organized and existing under the state of Delaware. Admitted that PolyOne Designed Structures and Solutions LLC is a limited liability company organized and existing under the laws of the state of Delaware and has a place of business at 11650 Lakeside Crossing Court, Maryland Heights, Missouri 63146. Admitted that PolyOne Designed Structures and Solutions LLC is a wholly owned subsidiary of PolyOne Corporation, and that the PolyOne Corporation website lists a number of facilities associated with the Designed Structures and Solutions division of its business.

### **Jurisdiction and Venue**

4. This is an action arising under the patent laws of the United States. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a) and under 35 U.S.C. §§ 271 and 281.

**ANSWER:** Admitted.

5. This Court has personal jurisdiction over Defendant PolyOne, which resides in this District.

**ANSWER:** Admitted.

6. Based on the Report of the Parties Planning Meeting, D.I. 21 at 8, Defendant PolyOne does not object to adding DSS as a party defendant to this action. Thus, DSS had consented to personal jurisdiction and venue in this District.

**ANSWER:** Admitted.

7. Venue is proper in this District under 28 U.S.C. §§ 1391(c) and 1400(b).

**ANSWER:** Admitted.

#### **ASI's Patents**

8. On May 5, 2008, ASI filed a provisional patent application, which was afforded a country code and number of US 61/050,465 to be used for filing abroad under the Paris Convention. On May 4, 2009, ASI filed PCT application PCT/US09/42704, which in turn claimed the benefit of priority from U.S. provisional application No. 61/050,465. On August 27, 2009, ASI filed a continuation application of PCT/US09/42704, which was given application no. 12/548,946 by the U.S. Patent and Trademark Office ("USPTO"), and which duly and legally resulted in the issuance of U.S. Patent No. 8,007,902, on August 30, 2011 ("the '902 patent") (Ex. 1). On August 26, 2011, ASI filed a continuation of Application No. 12/548,946, which was given application No. 13/219,270, and which duly and legally resulted in the issuance of U.S. Patent 8,182,906, on May 22, 2012 ("the '906 patent") (Ex. 2.) Claims of the '902 and '906 patents generally cover co-extruded, multilayer polyolefin sheets having properties that include a DOI of 70 or greater, certain gravelometer impact test results, and/or a random microstructure, and methods of making the same. Dennis Smith, an engineer employed by ASI, is the inventor of both the '902 and '906 patents.

**ANSWER:** Admitted that US 61/050,465 has a filing date of May 5, 2008. Admitted that PCT/US09/42704, was filed on May 4, 2009 and claimed the benefit of priority from U.S. provisional application No. 61/050,465. Admitted that U.S. application No. 12/548,946 was filed on August 27, 2009 as a continuation application of PCT/US09/42704. Admitted that U.S. Patent No. 8,007,902 issued on August 30, 2011 from U.S. application No. 12/548,946.

Admitted that U.S. application No. 13/219,270 was filed on August 26, 2011 as a continuation of U.S. application No. 12/548,946. Admitted that U.S. Patent No. 8,182,906 issued on May 22, 2012 from U.S. application No. 13/219,270. Admitted that Dennis Smith is listed as the inventor on the '902 and '906 patents. PolyOne is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of Paragraph 8 of the First Amended Complaint and so denies these allegations.

9. Under 35 U.S.C. § 282, ASI's '902 and '906 patents are presumed valid.

**ANSWER:** Admitted.

10. Plaintiff ASI is the owner of all right, title and interest in and to the '902 and '906 patents, including the right to sue for and recover all past, present and future damages for infringement.

**ANSWER:** Admitted that assignment documents in the USPTO name ASI as an assignee of the '902 and '906 patents. PolyOne is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of Paragraph 10 of the First Amended Complaint and so denies these allegations.

#### **PolyOne/DSS's Acts of Willful Infringement**

11. Prior to October 2009, ASI invested several million dollars in a manufacturing facility that it used to develop and market different types of sheet products for the automotive industry as potential replacements for metal panels in cars and trucks. ASI marketed those sheet products under the trademark, Invision. Those products, however, sold poorly because of their relatively high costs and the steep decline in auto production caused by the 2008/2009 recession.

**ANSWER:** PolyOne is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 11 of the First Amended Complaint and so denies these allegations.

12. Because the recession had caused a significant adverse impact on ASI's Invision business, ASI sought a business partner to help developed the Invision product line, and entered into non-disclosure agreements with several potential partners/purchasers of the Invision business, including Spartech Corporation ("Spartech"), a predecessor-in-interest to Defendants PolyOne and/or DSS.

**ANSWER:** Admitted that PolyOne Corporation purchased the stock of Spartech in 2013. PolyOne is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of Paragraph 12 of the First Amended Complaint and so denies these allegations.

13. In October 2009, after the provisional, PCT, and application no. 12/548,946 were filed, but before they were published or granted, Spartech executed a master secrecy agreement with ASI. Pursuant to that agreement, representatives of Spartech visited ASI's facilities to observe ASI's Invision manufacturing facility for the purpose of potentially purchasing the Invision manufacturing business. The Spartech employees who made that visit had the opportunity to observe equipment lines for producing multilayer polyolefin thermoplastic polyolefin ("TPO") products that were eventually covered by claims of the '902 and '906 patents. In addition, the Spartech employees who made that visit had access to then-secret information about the product formulation and the methods for making the products that were ultimately covered by claims of the '902 and '906 patents.

**ANSWER:** Admitted that Spartech entered into a two-way Master Secrecy Agreement with ASI dated October 16, 2009, and that Spartech employees visited ASI's facility for purposes of evaluating the potential purchase of used manufacturing equipment from ASI. All other allegations of Paragraph 13 of the First Amended Complaint are denied.

14. At the time the master secrecy agreement was executed, ASI's PCT application had not yet been published, and details regarding the now-patented products and process of the '902 and '906 patents were secret.

**ANSWER:** Admitted that at the time the Master Secrecy Agreement was executed, ASI's PCT application had not yet been published. PolyOne is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of Paragraph 14 of the First Amended Complaint and so denies these allegations.

15. Spartech employees who visited ASI's facilities obtained then-confidential information enabling them to replicate the process for making the products eventually covered by ASI's '902 and '906 patents. Spartech did not purchase ASI's TPO business or any of the equipment.

**ANSWER:** Admitted that Spartech did not purchase any business or equipment from ASI. All other allegations in Paragraph 15 of the First Amended Complaint are denied.

16. In 2011, Spartech issued a press release announcing that it had invested 6 million dollars in a new line making products Spartech described as "Extreme TPO thermoplastic polyolefin sheets."

**ANSWER:** Admitted.

17. In October 2012, PolyOne announced that it had entered an agreement to acquire Spartech.

**ANSWER:** Admitted.

18. In late 2012, ASI obtained sample polyolefin TPO sheets. Third parties who did not want to be involved in any dispute between ASI and Spartech specifically identified those sheets having been manufactured by Spartech, including sheets specifically identified as Spartech Extreme HG ("S1"); Spartech Extreme HG TPO 20775 Black ("S2"); Spartech Sample ("S3"); Spartech Extreme TPO 116824 White ("S4"); Spartech Sample 1500HG/63000 ("S6"). ASI had those samples tested by an independent laboratory. Based on test results received from the independent laboratory, ASI concluded that the tested sheets infringed both the '906 patent and the '902 patent.

**ANSWER:** PolyOne is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 18 of the First Amended Complaint and so denies these allegations.

19. After concluding that the tested Spartech TPO products infringed the '906 patent and the '902 patent, and before the effective closing of PolyOne's acquisition of Spartech, and at least as early as March 1, 2013, ASI gave Spartech notice of infringement. After an opportunity for discovery, there is likely to be evidence that PolyOne was aware of ASI's notice of infringement to Spartech and chose to proceed with the acquisition of Spartech with the notice of infringement unresolved. After a reasonable opportunity for further investigation and discovery, there is likely to be evidence that sometime after its acquisition of Spartech, PolyOne renamed the Spartech business "PolyOne Designed Structures & Solutions LLC," which is the Defendant referred to above as "DSS." Hereinafter, "PolyOne/DSS" refers to PolyOne, Spartech, and/or DSS.

**ANSWER:** Denied.

20. Between March of 2013 and the present, ASI attempted to reach a business solution with PolyOne/DSS. All of the negotiations were conducted between in-house counsel for ASI and in-house counsel for PolyOne. After a preliminary meeting in October 2013 between in-house attorneys for ASI and PolyOne, counsel for PolyOne repeatedly refused to meet or delayed meetings between business representatives of the parties, instead arguing that the '906 patent is invalid and/or that it has not made three-layer products. ASI suggested that PolyOne test DSS's products to determine whether they are covered by the claims of the '906 patent. Counsel for PolyOne refused, claiming that they did not understand how to conduct a DOI test. Based on the manner in which the negotiations were conducted, PolyOne controls DSS and has controlled and directed DSS's acts of infringement.

**ANSWER:** Admitted that PolyOne and ASI have communicated with each other regarding ASI's allegations of infringement, and that the '902 and '906 patents are invalid. All other allegations of Paragraph 20 of the First Amended Complaint are denied.

21. PolyOne/DSS markets or has marketed multilayer thermoplastic polyolefin thermoplastic TPO sheets under the trademarks, Extreme HG, Formalloys FG30, and Formalloys HG, among others. These types of products are typically custom made for and custom ordered by thermoformers. Typically, thermoformers submit purchase orders that include some or all of the following information: the product tradename & item number, which normally cover color, physical properties, appearance properties, layer structure and thicknesses; sheet length; sheet width; sheet thickness; pricing; packaging requirements; "ship to" information; regrind instructions, including percentage allowed, allowed, chemistries, regrind quality, and target sheet layer(s); and, part scrap buy back details. After the sheet extruder receives the purchase order from the thermoformer, the sheet manufacturer manufactures the sheets per the requirements in the purchase order. The manufactured sheets are then shipped to the thermoformer, who then forms or fabricates a part (such as a bumper for a moving vehicle). The formed part is shipped directly to an OEM or to a third party for additional assembly with neighboring parts to form a subassembly, which then is shipped to the OEM for final assembly. Multilayer sheets shipped from a manufacturer such as PolyOne to a thermoformer are typically unmarked because they are to be formed and then incorporated into an OEM product.

**ANSWER:** Admitted that PolyOne has manufactured and marketed Formalloys HG since at least 1998 and has manufactured and marketed Extreme HG since at least 2006. All other allegations in Paragraph 21 are denied.

22. Because PolyOne/DSS's accused products are custom ordered by thermoformers, and custom-made and sold to thermoformers, it would be difficult, if not impossible, for ASI to directly purchase multilayer sheets from PolyOne/DSS to test such products for infringement, given that PolyOne/DSS and ASI are major competitors in the plastics industry.

**ANSWER:** Denied.

23. Based on ASI's testing of the Spartech Extreme products and Spartech's access to ASI's Invision manufacturing facilities, and PolyOne/DSS's refusal to test its own products, ASI alleges that at least certain of PolyOne/DSS custom-made Extreme HG, Formalloys FG30, and Formalloys HG products are variations of the Spartech products previously tested, and thus infringe at least claims 1 and 36 of the '902 patent and at least claims 1, 20, 39, 55, and 77 of the '906 patent. To obtain proof of such infringement for trial, ASI resorts to the judicial process and the aid of discovery to obtain under appropriate judicial safeguards such information, including but not limited to appropriate samples for testing and document production prescribed under Local Patent Rule 3.4, which is required to confirm ASI's belief that the afore mentioned PolyOne/DSS products infringe the asserted claims of the '902 and '906 patents.



**ANSWER:** Denied.

24. After a reasonable opportunity for the discovery identified in paragraph 16, supra, there is likely to be evidence that PolyOne/DSS's infringement of ASI's patents is and has been willful. PolyOne/DSS had access to ASI's then-confidential knowhow to produce products eventually covered by the claims of the '902 and '906 patents. In violation of its obligations under the non-disclosure agreement with ASI, PolyOne/DSS constructed a new plant to manufacture products covered by the claims of ASI's '902 and '906 patents. In spite of numerous notices of infringement and attempts to reach a business solution, PolyOne/DSS have unabashedly continued to infringe ASI's '902 and '906 patents.

**ANSWER:** Denied.

**PolyOne/DSS's Willful Infringement Has Caused Irreparable Injury to ASI**

25. After ASI shut down its Invision sheet manufacturing facility, ASI continued to sell resins to sheet manufacturers for use in practicing the inventions covered by the asserted claims of the '902 and '906 patents. ASI manufactures and sells a high gloss, high clarity weatherable, olefin cap resin under the brand "Polytrope→ STR 3566EU-01" ("Polytrope 3566"). Polytrope 3566 is a material part of the inventions defined by the claims of the '902 and '906 patents, and is especially made and especially adapted for practicing such inventions. ASI also manufactures and sells other resins that can be co-extruded with Polytrope 3566 to produce colored co-extruded polyolefin sheets covered by the claims of the '902 and '906 patents ("ASI's patented sheets").

**ANSWER:** PolyOne is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 25 of the First Amended Complaint and so denies these allegations.

26. ASI's patented sheets may be thermoformed into parts that may be incorporated into automobiles, lawn and garden products, recreational vehicles and trailers, and other consumer products. Color pigments may be incorporated into resins used to make ASI's patented sheets to match the color of painted metal parts on consumer products such as automobiles, eliminating the need for painting.

**ANSWER:** PolyOne is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 26 of the First Amended Complaint and so denies these allegations.

27. ASI's patented sheets may be thermoformed into products that have excellent visual properties, are lighter than corresponding metal parts, and are highly resistant to dents and other deformations.

**ANSWER:** PolyOne is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 27 of the First Amended Complaint and so denies these allegations.

28. ASI's patented sheets offer significant benefits in thermoforming applications. ASI's patented sheets simplify the manufacturing process, and also provide a higher-performance and more environmentally friendly alternative to existing plastic sheet and film materials that are pigmented or painted.

**ANSWER:** Denied.

29. ASI has invested heavily to introduce and make the market for its patented products, against competition from inferior but lower priced alternatives.

**ANSWER:** PolyOne is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 29 of the First Amended Complaint and so denies these allegations.

30. Although some manufacturers of ASI's patented products have respected ASI's

patents, PolyOne/DSS has not.

**ANSWER:** Denied.

31. PolyOne/DSS's acts of infringement have irreparably damaged and continue to irreparably damage ASI's attempts to develop and expand the market for its patented products. Unless PolyOne is preliminarily and permanently enjoined from infringing ASI's '902 and '906 patents, ASI will continue to suffer irreparable injury. ASI has no adequate remedy at law.

**ANSWER:** Denied.

32. ASI is entitled to expedited discovery, including but not limited to production of samples of PolyOne/DSS's accused products for purposes of testing and production of documents sufficient to show PolyOne/DSS's process for manufacturing the accused products, and to a preliminary and permanent injunction to prevent PolyOne/DSS's acts of willful infringement from continuing to cause irreparable injury to ASI.

**ANSWER:** Denied.

#### **DSS's Failed Requests for Ex Parte Reexamination**

33. Between March 1, 2013, when ASI put PolyOne/DSS on notice, and May 26, 2015, Counsel for PolyOne sent several letters to counsel for ASI, contending that the claims of ASI's patents were invalid over prior art not considered by the USPTO in the original examination of the patents-in-suit.

**ANSWER:** Admitted that the claims of the '902 and '906 patent are invalid. The remaining allegations in Paragraph 33 are denied.

34. **The First Reexamination.** On May 26, 2015, over two years after ASI put PolyOne/DSS on notice of infringement, Defendant DSS filed a 321-page request for ex parte reexamination of claims 39-81 of the '906 patent, citing patents that had been discussed in previous correspondence, and others. On July 9, 2015, the USPTO issued an Order instituting ex parte reexamination ("the First Reexamination"), finding that DSS's request had raised a substantial new question of patentability of claims 39-81, but on grounds different from the

grounds proposed by DSS. The USPTO did not credit the declaration of DSS's expert, finding that it was cumulative to the references cited. The USPTO did not credit DSS's arguments or the expert's testimony that the DOI and gravelometer limitations were "inherent" in the prior art DSS cited. On October 16, 2015, the USPTO issued a non-final office action in the First Reexamination, rejecting claims 39-81. On December 16, 2015, ASI responded to the office action in the First Reexamination, providing evidence and authorities that claims 39-81 were patentable over the prior art.

**ANSWER:** Admitted that PolyOne Designed Structures and Solutions LLC filed a request for ex parte reexamination of claims 39-81 of the '906 patent on May 26, 2015.

Admitted that the USPTO issued an Order instituting ex parte reexamination ("the First Reexamination") on July 9, 2015 finding that the request raised a substantial new question of patentability with respect to claims 39-81 of the '902 patent. Admitted that the USPTO issued a non-final office action in the First Reexamination rejecting claims 39-81 on October 16, 2015. Admitted that ASI responded to the office action in the First Reexamination on December 16, 2015. All other allegations of Paragraph 34 of the First Amended Complaint are denied.

35. **The Second Reexamination.** On October 19, 2015, DSS filed a second request for ex parte reexamination ("the Second Reexamination"), challenging the patentability of claims 1-38 of the '906 patent on essentially the same prior art relied on in the First Reexamination. On November 18, 2015, the USPTO issued an Order instituting ex parte reexamination of claims 1-38 in the Second Reexamination, but on grounds different from the grounds proposed by DSS. The USPTO did not credit DSS's arguments or the expert's testimony that the DOI and gravelometer limitations were "inherent" in the prior art DSS cited.

**ANSWER:** Admitted that PolyOne Designed Structures and Solutions LLC filed a request for ex parte reexamination of claims 1-38 of the '906 patent on October 19, 2015. Admitted that the USPTO issued an Order instituting ex parte reexamination ("the Second Reexamination") on November 18, 2015 finding that the request had raised a substantial new

question of patentability with respect to claims 1-38. All other allegations of Paragraph 35 of the First Amended Complaint are denied.

36. **The USPTO Combines the First and Second Reexaminations.** On January 13, 2016, the USPTO issued an Order combining the First Reexamination with the Second Reexamination for administrative purposes.

**ANSWER:** Admitted.

37. **The USPTO Terminates the First and Second Reexaminations, Finding All Challenged Claims Patentable.** On March 14, 2016, the USPTO issued a Notice of Intent to Issue a Reexamination Certificate, terminating the combined reexamination and confirming the patentability of all challenged claims (1-81) of the '906 patent over the prior art cited by DSS.

**ANSWER:** Admitted that the USPTO issued a Notice of Intent to Issue a Reexamination Certificate on March 14, 2016, terminating the reexamination and confirming the patentability of all rejected claims (1-81) of the '906 patent over the combination of references that were relied upon by the USPTO in the office action of October 16, 2015 in the rejection of claims 39-81 of the '906 patent. All other allegations in Paragraph 37 of the First Amended Complaint are denied.

38. **The Third Reexamination.** On October 20 2015, DSS filed a request for ex parte reexamination of certain claims of the '902 patent based on essentially the same prior art as in the ex parte reexaminations of the '906 patent ("the Third Reexamination). On November 13, 2015, the USPTO issued an Order in the Third Reexamination, instituting the ex parte reexamination of claims 1, 4-6, and 36-38 of the '902 patent, but on grounds different from the grounds proposed by DSS. The USPTO did not credit the declaration of DSS's expert, finding that it was cumulative to the references cited. The USPTO did not credit DSS's arguments or the expert's testimony that the DOI and gravelometer limitations were "inherent" in the prior art DSS cited. On December 18, 2015, the USPTO issued a non-final office action, rejecting the same claims as well as additional dependent claims, so that claims 1-28 and 36-39 were rejected. On February 18, 2016, ASI responded to the office action, providing evidence and authorities that claims 1-28 and 36-39 were patentable over the prior art.

**ANSWER:** Admitted that PolyOne Designed Structures and Solutions LLC filed a request for ex parte reexamination of claims 1, 4-6, and 36-38 of the '902 patent on October 20, 2015. Admitted that the USPTO issued an Order instituting ex parte reexamination ("the Third Reexamination") on November 13, 2015 finding that the request had raised a substantial new question of patentability with respect to claims 1, 4-6, and 36-38 of the '902 patent. Admitted that the USPTO issued a non-final office action in the Third Reexamination, rejecting claims 1-28 and 36-39 on December 18, 2015. Admitted that ASI responded to the office action in the Third Reexamination on February 18, 2016. All other allegations of Paragraph 38 of the First Amended Complaint are denied.

39. **The USPTO Terminates the Third Reexamination, Finding All Challenged Claims Patentable.** On March 16, 2016, the USPTO issued a Notice of Intent to Issue a Reexamination Certificate, terminating the reexamination and confirming the patentability of all rejected [sic] claims (1-28 and 36-39) of the '902 patent over the prior art cited by DSS.

**ANSWER:** Admitted that the USPTO issued a Notice of Intent to Issue a Reexamination Certificate on March 16, 2016, terminating the reexamination and confirming the patentability of all rejected claims (1-28 and 36-39) of the '902 patent over the combination of references that were relied upon by the USPTO in the office action of December 18, 2015 in the rejection of claims 1-28 and 36-39 of the '902 patent. All other allegations of Paragraph 39 of the First Amended Complaint are denied.

### **PolyOne/DSS's Willful Infringement Has Damaged ASI**

40. PolyOne/DSS's acts of willful infringement have damaged ASI.

**ANSWER:** Denied.

41. ASI is entitled to damages adequate to compensate it for PolyOne/DSS's acts of infringement.

**ANSWER:** Denied.

42. ASI is entitled to three times the damages it has suffered on account of PolyOne/DSS's willful acts of infringement.

**ANSWER:** Denied.

#### **COUNT I INFRINGEMENT OF THE '902 PATENT**

43. ASI incorporates by reference the allegations of paragraphs 1-42, above.

**ANSWER:** PolyOne incorporates by reference its answers to Paragraphs 1-42 of the First Amended Complaint.

44. Based on the facts specifically alleged above, PolyOne/DSS has infringed at least claims 1 and 36 of the '902 patent by making, using, offering for sale and selling custom-made thermoplastic polyolefin (TPO) sheets under the trademarks Extreme HG, Formalloys FG and Formalloys HG, among others, which sheets have the same characteristics as the tested Spartech products described in the claim charts below:

<b>Claim 1 of '902 Patent</b>	<b>Spartech Extreme HG TPO 116824 White Sample (S4)</b>
A multilayer structure comprising:	The sample was a multilayer structure
a clear polyolefin layer;	The sample had a clear polyolefin layer that was primarily polypropylene

a colored polyolefin layer;	The sample had a colored polyolefin layer that was primarily polypropylene
a polyolefin backing layer;	The sample had a polyolefin backing layer that was primarily polypropylene
with a random microstructure;	The properties of the sample were consistent with the polyolefin backing layer of the sample having a random microstructure
the colored and backing layers are coextruded and are permanently bonded at a layer interface;	The colored and backing layers were permanently bonded at a layer interface in a manner consistent with the layers having been coextruded
the interface is exclusive of an adhesive layer;	No adhesive layer was observed in the sample
the structure has a DOI of 70 or greater;	The structure was measured to have a DOI of 90 as tested with an apparatus approved by GM4348M.
and the structure passes a gravelometer impact test per the GM9508P standard, with a 10 pt load, at a -30° C. temperature, and at an angle of 30°.	The structure passed the gravelometer test recited in this limitation with a rating of GM7, as prescribed in Table 2 of the patent specification.

<b>Claim 36 of '902 Patent</b>	<b>Spartech Extreme HG ("S1"); Spartech Extreme HG TPO 20775 Black ("S2"); Spartech Sample ("S3"); Spartech Extreme TPO 116824 White ("S4"); Spartech Sample 1500HG/63000 ("S6").</b>
A multilayer structure comprising:	Each of these samples were multilayer structures
a polyolefin layer;	Each of these samples had a polyolefin layer that was primarily polypropylene
a colored polyolefin backing layer	Each of these samples had a colored polyolefin backing layer that was primarily polypropylene
with a random microstructure;	The properties of each sample were consistent with the polyolefin backing layer of the sample having a random microstructure
the polyolefin and backing layers are coextruded and are permanently bonded at a layer interface;	The polyolefin and backing layers were permanently bonded at a layer interface in a manner consistent with the layers having been coextruded
the interface is exclusive of an adhesive layer;	No adhesive layer was observed in the samples
the structure has a DOI of 70 or greater;	Each structure was measured to have a DOI of at least 90 as tested with an apparatus approved by GM4348M.



and the structure passes a gravelometer impact test per the GM9508P standard, with a 10 pt load, at a -30° C. temperature, and at an angle of 30°.	Each structure passed the gravelometer test recited in this limitation with a rating of GM7 as prescribed in Table 2 of the patent specification.
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**ANSWER:** Denied.

45. ASI has suffered irreparable injury by virtue of PolyOne/DSS's acts of infringement.

**ANSWER:** Denied.

46. ASI is without an adequate remedy at law.

**ANSWER:** Denied.

47. ASI has also been damaged by PolyOne/DSS's acts of infringement in an amount that will be determined after ASI has had a reasonable opportunity for discovery.

**ANSWER:** Denied.

48. ASI is entitled to a preliminary and permanent injunction, and to an award of damages and treble damages as a consequence of PolyOne/DSS's willful acts of infringement.

**ANSWER:** Denied.

49. This case is exceptional, and ASI is entitled to an award of its costs and attorneys' fees.

**ANSWER:** Denied.

**COUNT II INFRINGEMENT OF THE '906 PATENT**

50. ASI incorporates by reference the allegations of paragraphs 1-42, above.

**ANSWER:** PolyOne incorporates by reference its answers to Paragraphs 1-49 of the First Amended Complaint.

51. Based on the facts specifically alleged above, PolyOne/DSS has infringed at least claims 1, 39, and 77 of the '906 patent by making, using, offering for sale and selling custom- made thermoplastic polyolefin (TPO) sheets under the trademarks Extreme HG, Formallooy FG and Formallooy HG, among others, based on the tested Spartech products described in the claim charts below:

<b>Claim 1 of '906 Patent</b>	<b>Spartech Extreme HG TPO 116824 White Sample (S4)</b>
A multilayer structure comprising:	The sample was a multilayer structure
a clear polyolefin layer;	The sample had a clear polyolefin layer that was primarily polypropylene
a colored polyolefin layer;	The sample had a colored polyolefin layer that was primarily polypropylene
a polyolefin backing layer;	The sample had a polyolefin backing layer that was primarily polypropylene
the colored and backing layers are coextruded and are permanently bonded at a layer interface;	The colored and backing layers were permanently bonded at a layer interface in a manner consistent with the layers having been coextruded
the interface is exclusive of an adhesive layer;	No adhesive layer was observed in the sample
the structure has a DOI of 70 or greater;	The structure was measured to have a DOI of 90 as tested with an apparatus approved by GM4348M.
and the structure passes a gravelometer impact test per the GM9508P standard, with a 10 pt load, at a -30° C. temperature, and at an angle of 30°.	The structure passed the gravelometer test recited in this limitation with a rating of GM7, as prescribed in Table 2 of the patent specification.

<b>Claim 39 of '906 Patent</b>	<b>Spartech Extreme HG ("S1"); Spartech Extreme HG TPO 20775 Black ("S2"); Spartech Sample ("S3"); Spartech Extreme TPO 116824 White ("S4"); Spartech Sample 1500HG/63000 ("S6").</b>
A multilayer structure comprising:	Each of these samples were multilayer structures
a polyolefin layer;	Each of these samples had a polyolefin layer that was primarily polypropylene
a thermoplastic polyolefin backing layer;	Each of these samples had a thermoplastic polyolefin backing layer that was primarily polypropylene
the polyolefin and backing layers are coextruded and are permanently bonded at a layer interface;	The polyolefin and backing layers were permanently bonded at a layer interface in a manner consistent with the layers having been coextruded
the interface is exclusive of an adhesive layer;	No adhesive layer was observed in the samples
the structure has a DOI of 70 or greater;	Each structure was measured to have a DOI of at least 90 as tested with an apparatus approved by GM4348M.

<b>Claim 39 of '906 Patent</b>	<b>Spartech Extreme HG ("S1"); Spartech Extreme HG TPO 20775 Black ("S2"); Spartech Sample ("S3"); Spartech Extreme TPO 116824 White ("S4"); Spartech Sample 1500HG/63000 ("S6").</b>
and the structure passes a gravelometer impact test per the GM9508P standard, with a 10 pt load, at a -30° C. temperature, and at an angle of 30°.	Each structure passed the gravelometer test recited in this limitation with a rating of GM7 as prescribed in Table 2 of the patent specification.

<b>Claim 77 of '906 Patent</b>	<b>Spartech Extreme HG ("S1"); Spartech Extreme HG TPO 20775 Black ("S2"); Spartech Sample ("S3"); Spartech Extreme TPO 116824 White ("S4"); Spartech Sample 1500HG/63000 ("S6").</b>
A method of making a multilayer structure comprising:	Each of the samples was a multilayer structure

coextruding a clear polyolefin layer, a colored polyolefin layer, or both a clear polyolefin layer and colored polyolefin layer, together with a polyolefin backing layer, to form a multi-layer structure;	All layers were primarily polypropylene. All samples had a clear polyolefin layer. Sample S4 had a colored polyolefin layer, all samples had a polyolefin backing layer that was primarily polypropylene. All samples were multi-layer structures.
wherein each coextruded layer is permanently bonded at a layer interface, and the interface is exclusive of an adhesive layer;	The layers of the multilayer structure were permanently bonded at a layer interface in a manner consistent with the layers having been coextruded.
<p>wherein the multilayer structure has the characteristics of at least one of:</p> <p>(A) a DOI of 70 or greater; and the multilayer structure passes a gravelometer impact test per the GM9508P standard, with a 10 pt load, at a -30° C. temperature, and at an angle of 30°; and</p> <p>(B) the polyolefin of a top layer selected from the clear and the color layer, has a Rockwell hardness of 80R or greater; and the structure has a gloss of 75 or greater at a 60° angle and a gloss of 60 or greater at a 20° angle.</p>	Each of the samples was measured to have a DOI of at least 90 as tested with an apparatus approved by GM4348M. Each of the samples passed the gravelometer test recited in this limitation with a rating of GM7 as prescribed in Table 2 of the patent specification. Thus, each of the samples had the characteristics of "(A) a DOI of 70 or greater; and the multilayer structure passes a gravelometer impact test per the GM9508P standard, with a 10 pt load, at a -30° C. temperature, and at an angle of 30°."

**ANSWER:** Denied.

52. Based on the facts specifically alleged above, including the tests of the Spartech products described in the claim charts below, and the product literature for the Extreme HG product, Formalloy FG and Formalloy HG multilayer sheets, PolyOne/DSS has actively induced infringement of at least claim 20 and claim 55 of the '906 patent in violation of 35 U.S.C. § 271(b) by marketing to thermoformers custom-made thermoplastic polyolefin (TPO) sheet structures "for large thermoforming applications." Since at least as early as March 13, 2013, PolyOne/DSS has known of ASI's claim that it infringed the '902 and '906 patents, and in spite of such knowledge, has marketed its multilayer products to thermoformers, with the specific intent and knowledge that such thermoformers would make formed products that infringe at least claims 20 and 55 of the '906 patent as follows:

<b>Claim 20 of '906 Patent</b>	<b>Spartech Extreme HG TPO 116824 White Sample</b>
A coextruded formed product comprising:	Based on information from the third party who provided the sample, the sample ASI tested was a coextruded multilayer sheet that had been provided to a third party by Spartech for thermoforming.
a clear polyolefin layer;	The sample ASI tested had a clear polypropylene layer.
a colored polyolefin layer;	The sample ASI tested had a colored polyolefin layer that was primarily polypropylene
a polyolefin backing layer;	The sample ASI tested had a polyolefin backing layer that was primarily polypropylene
the colored and backing layers are coextruded and are permanently bonded at a layer interface;	The colored and backing layers were permanently bonded at a layer interface in a manner consistent with the layers having been coextruded
the interface is exclusive of an adhesive layer;	No adhesive layer was observed in the sample
the formed product has a DOI of 70 or greater;	Because the tested multilayer structure was measured to have a DOI of 90 as tested with an apparatus approved by GM4348M, it is believed that the resulting thermoformed product would have a DOI of 70 or greater.
and the formed product passes a gravelometer impact test per the GM9508P standard, with a 10 pt load, at a -30° C. temperature, and at an angle of 30°.	Because the multilayer structure passed the gravelometer test recited in this limitation with a rating of GM7 as prescribed in Table 2 of the patent specification, it is believed that the resulting thermoformed product would also pass the gravelometer impact test with a rating of GM7.

<b>Claim 55 of '906 Patent</b>	<b>Spartech Extreme HG ("S1"); Spartech Extreme HG TPO 20775 Black ("S2"); Spartech Sample ("S3"); Spartech Extreme TPO 116824 White ("S4"); Spartech Sample 1500HG/63000 ("S6").</b>
A formed product comprising:	Based on information from the third party who provided the samples, each sample ASI tested was a coextruded multilayer sheet that had been provided to a third party by Spartech for thermoforming.
a polyolefin layer;	Each sample had a polyolefin layer that was primarily polypropylene

a thermoplastic polyolefin backing layer;	Each sample had a thermoplastic polyolefin backing layer that was primarily polypropylene
the polyolefin and backing layers are coextruded and are permanently bonded at a layer interface;	The polyolefin and backing layers of each sample were permanently bonded at a layer interface in a manner consistent with the layers having been coextruded
the interface is exclusive of an adhesive layer;	No adhesive layer was observed in each sample
the formed product has a DOI of 70 or greater;	Because the each of the tested multilayer samples was measured to have a DOI of 90 as tested with an apparatus approved by GM4348M, it is believed that the resulting thermoformed products would have a DOI of 70 or greater.
and the formed product passes a gravelometer impact test per the GM9508P standard, with a 10 pt load, at a -30° C. temperature, and at an angle of 30°.	Because each of the multilayer samples passed the gravelometer test recited in this limitation with a rating of GM7 as prescribed in Table 2 of the patent specification, it is believed that the resulting thermoformed products would also pass the gravelometer impact test with a rating of GM7.

**ANSWER:** Denied.

53. ASI has suffered irreparable injury by virtue of PolyOne/DSS's acts of infringement.

**ANSWER:** Denied.

54. ASI is without an adequate remedy at law.

**ANSWER:** Denied.

55. ASI has also been damaged by PolyOne/DSS's acts of infringement in an amount that will be determined after ASI has had a reasonable opportunity for discovery.

**ANSWER:** Denied.

56. ASI is entitled to a preliminary and permanent injunction, and to an award of damages and treble damages as a consequence of PolyOne/DSS's willful acts of infringement.

**ANSWER:** Denied.

57. This case is exceptional, and ASI is entitled to an award of its costs and attorneys' fees.

**ANSWER:** Denied.

### **POLYONE'S AFFIRMATIVE DEFENSES**

As separate affirmative defenses to the First Amended Complaint of ASI, PolyOne states as follows:

#### **First Affirmative Defense**

58. Defendants PolyOne Corporation and PolyOne Designed Structures and Solutions LLC have not infringed, and are not now infringing any claim of U.S. Patent No. 8,007,902.

#### **Second Affirmative Defense**

59. Defendants PolyOne Corporation and PolyOne Designed Structures and Solutions LLC have not infringed, and are not now infringing any claim of U.S. Patent No. 8,182,906.

#### **Third Affirmative Defense**

60. U.S. Patent No. 8,007,902 is invalid for failure to comply with the relevant statutes and regulations, including one or more of 35 U.S.C. §101, §102, §103, and §112 for at least one or more of the following reasons: (a) each claim in U.S. Patent No. 8,007,902 fails to particularly point out and distinctly claim the subject matter which is regarded as the invention;

(b) the specification of U.S. Patent No. 8,007,902 does not contain a written description of the invention and of the manner and process of making it and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art of science to which it pertains, or with which it is most nearly connected, to make construct, compound, and/or use the same, so as to distinguish it from other inventions; (c) the claimed invention of U.S. Patent No. 8,007,902 was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent; (d) the claimed invention of U.S. Patent No. 8,007,902 was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States; (e) in light of the prior art at the time the claimed invention was made, the subject matter claimed in U.S. Patent No. 8,007,902 would have been obvious to a person skilled in the art to which the alleged invention relates and does not constitute a patentable invention.

#### **Fourth Affirmative Defense**

61. U.S. Patent No. 8,182,906 is invalid for failure to comply with the relevant statutes and regulations, including one or more of 35 U.S.C. §101, §102, §103, and §112 for at least one or more of the following reasons: (a) each claim in U.S. Patent No. 8,182,906 fails to particularly point out and distinctly claim the subject matter which is regarded as the invention; (b) the specification of U.S. Patent No. 8,182,906 does not contain a written description of the invention and of the manner and process of making it and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which it pertains, or with which it is most nearly connected, to make construct, compound, and/or use the same, so as to distinguish it from other inventions; (c) the claimed invention of U.S. Patent No. 8,182,906 was



known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent; (d) the claimed invention of U.S. Patent No. 8,182,906 was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States; (e) in light of the prior art at the time the claimed invention was made, the subject matter claimed in U.S. Patent No. 8,182,906 would have been obvious to a person skilled in the art to which the alleged invention relates and does not constitute a patentable invention.

#### **Fifth Affirmative Defense**

62. ASI's action is barred under the equitable doctrine of laches. U.S. Patent No. 8,007,902 issued on August 30, 2011 and U.S. Patent No. 8,182,906 issued on May 22, 2012. ASI delayed filing the instant action until August 31, 2015, four years after issuance of the '902 patent. ASI was aware of the accused TPO product lines at the time the patents issued, but intentionally and unreasonably delayed filing suit against Defendant. As a result of this delay, PolyOne is prejudiced in that circumstances have changed, witnesses and/or evidence may have been lost or no longer available, PolyOne has expended considerable effort and resources to continue developing its business lines and customer channels, and it is no longer just to grant Plaintiff's claim.

#### **COUNTERCLAIMS**

Defendants PolyOne Corporation and PolyOne Designed Structures and Solutions LLC for its counterclaims against A. Schulman, Inc., states as follows:

63. Counter-Plaintiff PolyOne Corporation is a corporation organized and existing under the laws of the state of Ohio with a place of business at 33587 Walker Road, Avon Lake,

Ohio.

64. Counter-Plaintiff PolyOne Designed Structures and Solutions LLC is a limited liability company organized and existing under the state of Delaware and is a wholly-owned subsidiary of Counter-Plaintiff PolyOne Corporation. DSS has a place of business at 11650 Lakeside Crossing Court, Maryland Heights, Missouri 63146. PolyOne Corporation and PolyOne Designed Structures and Solutions LLC will collectively be referred to hereinafter as "PolyOne".

65. PolyOne Corporation ("PolyOne") was formed in 2000 as a consolidation of The Geon Company and M.A. Hanna Company. Geon's roots go back to 1927 when BF Goodrich scientist Waldo Semon produced the first usable vinyl polymer. In 1948, BF Goodrich created a plastic division that was subsequently spun off through a public offering in 1993, creating Geon. Hanna formed in 1885 and purchased its first polymer company in 1986. PolyOne is a premier provider of specialized polymer materials, services and solutions with operations in specialty polymer formulations, color and additive systems, plastic sheet and packaging solutions, and polymer distribution. PolyOne is headquartered in Avon Lake, Ohio, and has approximately 6900 employees in sales, manufacturing and distribution facilities in North America, South America, Europe, Asia, and Africa.

66. PolyOne Designed Structures and Solutions LLC is a wholly owned subsidiary of PolyOne Corporation, and was formed upon the purchase by PolyOne Corporation of the stock of Spartech Corporation in March 2013.

67. With roots going back to 1960, Spartech was a leading manufacturer of extruded plastic sheet, color concentrates and specialty plastic materials, and plastic packaging solutions. Spartech was the largest extruder of custom thermoplastic sheet and rollstock in North America

with its products utilized in a variety of end markets, including automotive and recreational vehicle components. Spartech was actively involved in the development of new products, which included engineered sheets using multiple layers of materials, often of different plastics and often using proprietary mixtures of plastic compounds. Such products offered end-product manufactures a variety of solutions for high performance, such as light weight, weatherable, formable/shapeable, high gloss/non-painted, and durable. As of 2005, Spartech's Custom Sheet and Rollstock segment operated twenty-two manufacturing facilities in North America and one in Europe. At these facilities, Spartech extruded a variety of plastic resins, including polyolefins, and produced extruded plastic sheet and rollstock of up to seven layers using multi-extrusion processes.

68. The Formalloy HG brand of coextruded polyolefin sheet, suitable for use in many vehicle exterior and interior thermoformed parts, was introduced in 1998 and consists of a glossy polyolefin cap layer over a thermoplastic polyolefin base.

69. Coextruded polyolefin sheet later sold under the Extreme HG brand was first commercialized in 2006 and also consists of a glossy polyolefin cap layer over a thermoplastic polyolefin base.

70. Some variants of the Formalloy HG and Extreme HG products manufactured and sold prior to May 5, 2007 also included one or more other coextruded polyolefin layers between the cap layer and the base layer.

71. Counter-Defendant A. Schulman, Inc. ("ASI") is a corporation organized and existing under the laws of the state of Delaware, with a place of business at 3637 Ridgewood Road, Fairlawn, Ohio.

72. U.S. Patent No. 8,007,902 (the '902 Patent) issued on August 30, 2011 from U.S.

application No. 12/548,946, which was filed on August 27, 2009 as a continuation application of PCT/US09/42704, which in turn was filed on May 4, 2009, and claims priority to U.S. provisional application No. 61/050,465, which was filed on May 5, 2008. U.S. Patent No. 8,182,906 (the '906 Patent) issued on May 22, 2012 as a continuation of U.S. application No. 12/548,946 referred to in Paragraph 71, above, and also claims priority to PCT/US09/42704 and U.S. provisional application No. 61/050,465. Dennis Smith is listed as the inventor on the '902 and '906 patents.

73. Both the '902 patent and the '906 patent have undergone ex parte reexaminations in the USPTO at the request of PolyOne Designed Structures and Solutions LLC. Claims 1-28 and 36-39 of the '902 patent were reexamined; and claims 1-81 of the '906 patent were reexamined. These reexaminations have terminated, and Reexamination Certificates have been issued on April 7, 2016 and April 4, 2016, for the '902 and '906 patents, respectively.

74. In each reexamination, the USPTO did not consider the best prior art submitted when making its initial rejections of the claims. In addition, because of the law regarding reexaminations, certain prior art, including prior sales by Spartech Corporation, could not be considered by the USPTO.

75. In November of 2009, Spartech employees visited Counter-Defendant ASI's facilities to evaluate used extrusion equipment that ASI was selling after the failure of its attempts at entering the polyolefin sheet market.

76. Contrary to ASI's contentions in Paragraphs 13 through 15, above, Spartech did not learn anything about polyolefin coextrusion as a consequence of this visit, confidential or otherwise.

77. Spartech had already been successfully manufacturing and selling Formalloy

coextruded polyolefin sheet for at least 10 years prior to seeing ASI's idle, used extrusion equipment.

78. Spartech also had been manufacturing and selling the coextruded polyolefin sheet later sold under the Extreme brand for at least 3 years prior to the 2009 visit to ASI's facilities.

79. At the time of and during the 2009 visit, Spartech did not learn or obtain any information about ASI's allegedly secret process, nor could PolyOne have learned such information by viewing the used equipment ASI was offering for sale.

80. At the time of and during the 2009 visit, Spartech also did not learn anything about ASI's formulations for coextruded polyolefin sheet materials described in the '902 and '906 patents.

**COUNT I - DECLARATORY JUDGEMENT OF NON-INFRINGEMENT  
OF U.S. PATENT NO. 8,007,902**

81. Counter-Plaintiff PolyOne hereby incorporates by reference Paragraphs 58 through 62 as its Affirmative Defenses, Paragraphs 63 through 80, above, and its answers to Paragraphs 1 through 57, as if fully set forth herein.

82. This is an action arising under the patent laws of the United States. This Court has subject matter jurisdiction over this counterclaim in that it is one for declaratory relief under 28 U.S.C. §§ 2201, and the patent laws of the United States which arises from an actual and justiciable controversy between Plaintiff ASI and Defendant PolyOne, as to alleged infringement of U.S. Patent No. 8,007,902 and U.S. Patent No. 8,182,906, referred to herein as the '902 and '906 patents, respectively.

83. Counter-Defendant ASI has charged, by this action, that Counter-Plaintiff PolyOne has infringed the '902 patent.

84. This Court has personal jurisdiction over Counter-Defendant ASI, which

resides in this District.

85. Venue is proper in this District under 28 U.S.C. §§ 1391(c) and 1400(b).

86. An actual controversy exists between Counter-Plaintiff PolyOne and Counter-Defendant ASI within the jurisdiction of this Court and which this Court should resolve; Counter-Plaintiff PolyOne seeks the declaration of the rights of the parties under the provisions of Section 2201 of Title 28, United States Code.

87. Counter-Plaintiff PolyOne has not infringed, and is not now infringing any claim of U.S. Patent No. 8,007,902. PolyOne does not sell and has not sold any products that meet all of the limitations of any valid claims of the '902 patent.

**COUNT II - DECLARATORY JUDGEMENT OF NON-INFRINGEMENT  
OF U.S. PATENT NO. 8,182,906**

88. Counter-Plaintiff PolyOne hereby incorporates by reference Paragraphs 58 through 62 as its Affirmative Defenses, Paragraphs 63 through 87, above, and its answers to Paragraphs 1 through 57, as if fully set forth herein.

89. Counter-Defendant ASI has charged, by this action, that Counter-Plaintiff PolyOne has infringed the '906 patent.

90. Counter-Plaintiff PolyOne has not infringed, and is not now infringing any claim of U.S. Patent No. 8,182,906. PolyOne does not sell and has not sold any products that meet all of the limitations of any valid claims of the '906 patent.

**COUNT III - DECLARATORY JUDGEMENT OF INVALIDITY  
OF U.S. PATENT NO. 8,007,902**

91. Counter-Plaintiff PolyOne hereby incorporates by reference Paragraphs 58 through 62 as its Affirmative Defenses, Paragraphs 63 through 90, above, and its answers to Paragraphs 1 through 57, as if fully set forth herein.

92. Each claim in U.S. Patent No. 8,007,902 is invalid for failure to comply with the patentability requirements of Title 35 United States Code (e.g., one or more of 35 U.S.C. §101, §102, §103, and/or §112), examples of which are set forth in Paragraphs 93 through 115, below.

93. Each claim in the '902 patent is invalid under 35 U.S.C. § 102(b) due to prior sale, in this country, of the accused products Extreme HG and Formalloy HG more than a year before the earliest effective filing date of the '902 patent, May 5, 2008, as set forth in Paragraphs 94 through 98, below.

94. PolyOne has confidential manufacturing and sales information showing that since more than a year prior to May 5, 2008, the accused Formalloy HG product has been and currently is a multilayered sheet material comprising a polyolefin cap layer over a polyolefin base layer, with one or more optional polyolefin layers between the cap and base layers, formed by coextrusion of the polyolefin layers without use of an adhesive between the layers.

95. Spartech Corporation publically announced the introduction Formalloy HG high gloss TPO product line in August of 1998.

96. A 1999 article by Jan H. Schut, "Sheet Extrusion Competition Ups the Ante on Technological Sophistication", *Plastics Technology*, Feb. 1999, p. 40-43, February 1999 ("Schut"), described Spartech's Formalloy HG product as "a 0.125-0.300 in. substrate of colored TPO capped with 0.020-0.030 in. of clear, glossy PP. The gloss layer and TPO were developed for Spartech by UVTec Inc. The company uses clarifying agents to keep crystals in the PP layer very small."

97. PolyOne has confidential manufacturing and sales information showing that since more than a year prior to May 5, 2008, the accused Extreme HG product has been and currently is a multilayered sheet material comprising a polyolefin cap layer over a polyolefin base layer,

with one or more optional polyolefin layers between the cap and base layers, formed by coextrusion of the polyolefin layers without use of an adhesive between the layers.

98. The May 2008 issue of the magazine *Plastics Technology* reported on Spartech's Extreme HG product line: " New thermoformable TPO sheet from Spartech Corp., Clayton, Mo., reportedly offers improved processability for RV, bus, truck, and marine applications. "Extreme" sheet products comprise three grades that provide a wider processing window, better sag control, and enhanced aesthetics, Spartech says ... Extreme HG provides high gloss (85%) and excellent depth of image in a range of colors ... Among the first commercial applications are 8 × 10 ft RV exterior panels. Widths up to 120 in. and thicknesses from 60 to 325 mils are available."

99. Each claim in the '902 patent is invalid under 35 U.S.C. § 102(b) as being anticipated by the prior art. For example, several prior art references asserted in the reexamination petitions in the reexaminations of the '902 and '906 patents, which were not specifically relied upon by the reexamination Examiners, teach multilayered coextruded polyolefin sheet materials and formed products having substantially the same structure as claimed in the '902 patent.

100. Each claim in the '902 patent is invalid under 35 U.S.C. § 103(a) as being obvious over the prior art. For example, several prior art references asserted in the reexamination petitions in the reexaminations of the '902 and '906 patents, which were not specifically relied upon by the reexamination Examiners, and which when combined with the knowledge of persons of ordinary skill in the art or other references in the field of the alleged invention, teach or suggest substantially the same multilayered coextruded polyolefin sheet materials and formed products as claimed in the '902 patent.



101. Each asserted claim in the '902 patent fails to particularly point out and distinctly claim the subject matter which is regarded as the invention, and thus fails to comply with the second paragraph of 35 U.S.C. §112, as set forth in Paragraphs 102 through 108, below.

102. Each asserted claim of the '902 patent requires that the claimed multilayer material, or the claimed formed products, as the case may be, must exhibit a DOI of 70 or greater.

103. There are multiple known methods and test protocols for measuring DOI. Some DOI methods involve subjective visual comparison of an image reflected from a test surface to a standard set of images that represent different DOI levels. Several other DOI methods use instrumentation that directly provide a numerical DOI value as the output.

104. Such subjective and instrumental methods as referred to in Paragraph 103, above, would not necessarily provide the same results for a given test sample. Application of each of these different methods can yield different results.

105. Neither the claims nor the specification of the '902 patent identify or describe the specific method by which the DOI should be measured to satisfy this limitation of the asserted claims.

106. Each asserted claims of the '902 patent requires that the backing layer has a "random microstructure."

107. Neither the specification nor the claims describe or enable the "random microstructure" limitation, which is not a term that is commonly or consistently used in the polymer and plastics art.

108. ASI did not test for the "random microstructure" limitation in the alleged tests of PolyOne/Spartech's products described in the claim charts included in ASI's infringement claims,

above.

109. The specification of the '902 patent does not contain a written description of the invention and of the manner and process of making it and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art of science to which it pertains, or with which it is most nearly connected, to make construct, compound, or use the same, so as to distinguish it from other inventions, and thus fails to comply with the first paragraph of 35 U.S.C. §112, as set forth in Paragraphs 110 through 115, below.

110. The specification of the '902 patent does not contain a written description of the factors required to obtain the DOI and gravelometer test property limitations of the claimed multilayer sheet materials, formed products and methods, sufficient to enable a person or ordinary skill in the art to make the claimed invention as required by the first paragraph of 35 U.S.C. §112.

111. The specification of the '902 patent does not contain a written description of the gravelometer test limitation of the claims, in such full, clear, concise, and exact terms as to enable any person skilled in the art of science to which it pertains, or with which it is most nearly connected, to make construct, compound, or use the same, as set forth in paragraphs 112 through 115, below.

112. The asserted claims of the '902 patent require that the claimed multilayer sheet materials or claimed formed products, as the case may be, pass a modified GM9508P gravelometer test, which ASI defined as obtaining a rating of 7 or greater during the reexaminations of the '902 and '906 patents.

113. The asserted claims require using 10 times the amount of gravel specified in the GM9508P test protocol.

114. The specification does not teach how the modification referred to in Paragraph 113, above, should be implemented in the operation of the published GM9508P test.

115. The specification of the '902 patent does not describe how a gravel-damaged *plastic sheet* or *plastic formed product*, which may have the same color all the way through the material, is to be compared to the photographs of chipped painted surfaces supplied with the test protocol to reliably and consistently determine if a given material passes the GM9508P test. Thus, a person of ordinary skill in the art would not be able to objectively determine what rating a given test sample should be assigned. Consequently, the specification does not meet the written description and enablement requirements of 35 U.S.C. §112.

**COUNT III - DECLARATORY JUDGEMENT OF INVALIDITY  
OF U.S. PATENT NO. 8,182,906**

116. Counter-Plaintiff PolyOne hereby incorporates by reference Paragraphs 58 through 62 as its Affirmative Defenses, Paragraphs 63 through 115, above, and its answers to Paragraphs 1 through 57, as if fully set forth herein.

117. Each claim in U.S. Patent No. 8,182,906 is invalid for failure to comply with the patentability requirements of Title 35 United States Code (e.g., one or more of 35 U.S.C. §101, §102, §103, and/or §112), examples of which are set forth in Paragraphs 118 through 137, below.

118. Each claim in the '906 patent is invalid under 35 U.S.C. § 102(b) due to prior sale, in this country, of the accused products Extreme HG and Formallooy HG more than a year before the earliest effective filing date of the '906 patent, May 5, 2008, as set forth in Paragraphs 119 through 123, below.

119. PolyOne has confidential manufacturing and sales information showing that since more than a year prior to May 5, 2008, the accused Formallooy HG product has been and currently is a multilayered sheet material comprising a polyolefin cap layer over a polyolefin

base layer, with one or more optional polyolefin layers between the cap and base layers, formed by coextrusion of the polyolefin layers without use of an adhesive between the layers.

120. Spartech Corporation publically announced the introduction Formalloy HG high gloss TPO product line in August of 1998.

121. A 1999 article by Jan H. Schut, "Sheet Extrusion Competition Ups the Ante on Technological Sophistication", *Plastics Technology*, Feb. 1999, p. 40-43, February 1999 ("Schut"), described Spartech's Formalloy HG product as "a 0.125-0.300 in. substrate of colored TPO capped with 0.020-0.030 in. of clear, glossy PP. The gloss layer and TPO were developed for Spartech by UVTec Inc. The company uses clarifying agents to keep crystals in the PP layer very small."

122. PolyOne has confidential manufacturing and sales information showing that since more than a year prior to May 5, 2008, the accused Extreme HG product has been and currently is a multilayered sheet material comprising a polyolefin cap layer over a polyolefin base layer, with one or more optional polyolefin layers between the cap and base layers, formed by coextrusion of the polyolefin layers without use of an adhesive between the layers.

123. The May 2008 issue of the magazine *Plastics Technology* reported on Spartech's Extreme HG product line: "New thermoformable TPO sheet from Spartech Corp., Clayton, Mo., reportedly offers improved processability for RV, bus, truck, and marine applications. "Extreme" sheet products comprise three grades that provide a wider processing window, better sag control, and enhanced aesthetics, Spartech says ... Extreme HG provides high gloss (85%) and excellent depth of image in a range of colors ... Among the first commercial applications are 8 × 10 ft RV exterior panels. Widths up to 120 in. and thicknesses from 60 to 325 mils are available."

124. Each claim in the '906 patent is invalid under 35 U.S.C. § 102(b) as being anticipated by the prior art. For example, several prior art references asserted in the reexamination petitions in the reexaminations of the '902 and '906 patents, which were not specifically relied upon by the reexamination Examiners, teach multilayered coextruded polyolefin sheet materials and formed products having substantially the same structure as claimed in the '906 patent.

125. Each claim in the '906 patent is invalid under 35 U.S.C. § 103(a) as being obvious over the prior art. For example, several prior art references asserted in the reexamination petitions in the reexaminations of the '902 and '906 patents, which were not specifically relied upon by the reexamination Examiners, and which when combined with the knowledge of persons of ordinary skill in the art or other references in the field of the alleged invention, teach or suggest substantially the same multilayered coextruded polyolefin sheet materials and formed products as claimed in the '902 patent.

126. Each asserted claim in the '906 patent fails to particularly point out and distinctly claim the subject matter which is regarded as the invention, and thus fails to comply with the second paragraph of 35 U.S.C. §112, as set forth in Paragraphs 127 through 130, below.

127. Each asserted claim of the '906 patent requires that the claimed multilayer material, or the claimed formed products, as the case may be, must exhibit a DOI of 70 or greater.

128. There are multiple known methods and test protocols for measuring DOI. Some DOI methods involve subjective visual comparison of an image reflected from a test surface to a standard set of images that represent different DOI levels. Several other DOI methods use instrumentation that directly provide a numerical DOI value as the output.

129. Such subjective and instrumental methods as referred to in Paragraph 128, above, would not necessarily provide the same results for a given test sample. Application of each of these different methods can yield different results.

130. Neither the claims nor the specification of the '906 patent identify or describe the specific method by which the DOI should be measured to satisfy this limitation of the asserted claims.

131. The specification of the '906 patent does not contain a written description of the invention and of the manner and process of making it and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art of science to which it pertains, or with which it is most nearly connected, to make construct, compound, or use the same, so as to distinguish it from other inventions, and thus fails to comply with the first paragraph of 35 U.S.C. §112, as set forth in Paragraphs 132 through 137, below.

132. The specification of the '906 patent does not contain a written description of the factors required to obtain the DOI and gravelometer test property limitations of the claimed multilayer sheet materials, formed products and methods, sufficient to enable a person or ordinary skill in the art to make the claimed invention as required by the first paragraph of 35 U.S.C. §112.

133. The specification of the '906 patent does not contain a written description of the gravelometer test limitation of the claims, in such full, clear, concise, and exact terms as to enable any person skilled in the art of science to which it pertains, or with which it is most nearly connected, to make construct, compound, or use the same, as set forth in paragraphs 134 through 137, below.

134. The asserted claims of the '906 patent require that the claimed multilayer sheet

materials or claimed formed products, as the case may be, pass a modified GM9508P gravelometer test, which ASI defined as obtaining a rating of 7 or greater during the reexaminations of the '902 and '906 patents.

135. The asserted claims require using 10 times the amount of gravel specified in the GM9508P test protocol.

136. The specification does not teach how the modification referred to in Paragraph 135, above, should be implemented in the operation of the published GM9508P test.

137. The specification of the '906 patent does not describe how a gravel-damaged *plastic sheet or plastic formed product*, which may have the same color all the way through the material, is to be compared to the photographs of chipped painted surfaces supplied with the test protocol to reliably and consistently determine if a given material passes the GM9508P test. Thus, a person of ordinary skill in the art would not be able to objectively determine what rating a given test sample should be assigned. Consequently, the specification does not meet the written description and enablement requirements of 35 U.S.C. §112.

#### **PRAYER FOR RELIEF**

WHEREFORE, Defendants prays that this Court enter judgment:

A. Denying all of ASI's claims and requested relief , and declaring that Plaintiff A. Schulman, Inc. takes nothing by reason of its First Amended Complaint, and that the First Amended Complaint be dismissed with prejudice, and that judgement be entered against A. Schulman, Inc., and in favor of Defendants and Counter-Plaintiffs PolyOne Corporation and PolyOne Designed Structures and Solutions LLC;

B. Declaring that no claim of U.S. Patent No. 8,007,902 is infringed by PolyOne Corporation or PolyOne Designed Structures and Solutions LLC;

- C. Declaring that no claim of U.S. Patent No. 8,182,906 is infringed by PolyOne Corporation or PolyOne Designed Structures and Solutions LLC;
- D. Declaring that each claim of U.S. Patent No. 8,007,902 is invalid under one or more of 35 U.S.C. §102, §103 and §112.
- E. Declaring that each claim of U.S. Patent No. 8,182,906 is invalid under one or more of 35 U.S.C. §102, §103 and §112;
- F. Declaring that this case is exceptional under 35 U.S.C. §285, and awarding PolyOne Corporation and PolyOne Designed Structures and Solutions LLC its reasonable attorneys' fees incurred in the prosecution and defense of this action;
- G. Declaring that A. Schulman's First Amended Complaint is barred by the doctrine of laches and the other affirmative defenses;
- H. Awarding Defendants and Counter-Plaintiffs PolyOne Corporation and PolyOne Designed Structures and Solutions LLC all costs and expenses reasonably associated with the First amended Complaint, Answers, and Counterclaims; and
- I. Declaring that PolyOne Corporation and PolyOne Designed Structures and Solutions LLC be awarded such further relief as the Court may deem just, necessary or proper.

Dated: April 27, 2016

Respectfully submitted,

/s/ Arne M. Olson

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**CERTIFICATE OF SERVICE**

I hereby certify that a copy of the forgoing document was served on April 27, 2016 upon the following counsel of record in the manner listed:

VIA E-MAIL

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